What is claimed is:

1. A nitride semiconductor element comprising,

at least a conductive layer, a first terminal, a nitride semiconductor with a light-emitting layer, and a second terminal, from a supporting substrate successively, wherein,

the first terminal and a first insulating protect layer are interposed between the conductive layer and a first conductive type nitride semiconductor layer.

2. The nitride semiconductor according to claim 1, wherein the first terminal and the first insulating protect layer are in contact with the first nitride semiconductor layer.

3. The nitride semiconductor according to claim 1, wherein,

the first terminal and the second terminal are formed in an opposed terminal structure, and

the second terminal is disposed on the portion corresponding to the rest of the portion, on which the first terminal is disposed.

4. The nitride semiconductor according to claim 1, wherein,

the nitride semiconductor includes the first conductive type nitride semiconductor layer, the light-emitting layer, and a second conductive type nitride semiconductor layer, which has an asperity portion as a top layer thereof.

5. The nitride semiconductor according to claim 5, wherein the nitride semiconductor layers except the light-emitting layer in the nitride semiconductor

have a band gap larger than the light-emission band gap.

6. The nitride semiconductor according to claim 1, wherein the linear thermal expansion coefficient of the supporting substrate is 4-10 $\times$ 10^{-6}/K.

7. The nitride semiconductor according to claim 1, wherein the supporting substrate includes at least one element selected from the group of Cu, Mo, and W.

8. The nitride semiconductor according to claim 7, wherein the content of Cu in the supporting substrate is not more than 50%.

9. The nitride semiconductor according to claim 7, wherein the content of Mo in the supporting substrate is more than or equal to 50%.

10. The nitride semiconductor according to claim 7, wherein the content of W in the supporting substrate is more than or equal to 70%.

11. The nitride semiconductor according to claim 1, wherein a metal layer, which includes at least one element selected from the group of Al, Ag, and Rh, is formed on the side of the first insulating protect layer not in contact with the nitride semiconductor.

12. The nitride semiconductor according to claim 11, wherein the metal layer is in contact with the conductive layer.

13. The nitride semiconductor according to claim 1, wherein the light-emitting layer has a quantum well structure, which includes at least a well layer of $Al_aIn_bGa_{1-a-b}N$ (0=a=1 0=b=1, a+b=1) and a barrier layer of $Al_cIn_dGa_{1-c-d}N$ (0=c=1, 0=d=1, c+d=1).

14. The nitride semiconductor according to claim 13, wherein,

the light-emitting layer has a quantum well structure, which includes at least a well layer of $Al_aIn_bGa_{1-a-b}N$ (0<a=1, 0<b=1, a+b<1) and a barrier layer of $Al_cIn_dGa_{1-c-d}N$ (0<c=1, 0<d=1, c+d<1),

the first conductive type semiconductor layer is disposed in one side of the principal plane of the light-emitting layer, and

the second conductive type semiconductor layer, which includes Al, is disposed in another side of the principal plane of the light-emitting layer.

15. The nitride semiconductor according to claim 14, wherein,

the second conductive type nitride semiconductor layer includes at least two layers,

one layer of said two layers, which is disposed in the second terminal side, is formed of $Al_eGa_{1-e}N$(0<e<0.05), and

another layer of said two layers, which is disposed in the light-emitting layer side, is formed of $Al_fGa_{1-f}N$(0<f<0.1),

wherein,

the impurity concentration of the $Al_eGa_{1-e}N$ layer is higher than the $Al_fGa_{1-f}N$ layer.

16. The nitride semiconductor according to claim 14, wherein,

the second conductive type nitride semiconductor layer includes at least two layers,

one layer of said two layers, which is disposed in the second terminal side, is formed of $Al_eGa_{1-e}N$, and

another layer of said two layers, which is disposed in the light-emitting layer side, is formed of $Al_fGa_{1-f}N(f>e)$,

wherein the impurity concentration of the $Al_eGa_{1-e}N$ layer is higher than the $Al_fGa_{1-f}N$ layer.

17. A method for producing a nitride semiconductor element having at least a conductive layer, a first terminal, a nitride semiconductor with a light-emitting layer, and a second terminal, from a supporting substrate successively, comprising:

a growing step for growing the nitride semiconductor having at least a second conductive type nitride semiconductor layer, the light-emitting layer, and a first conductive type nitride semiconductor layer, on a different material substrate; subsequently,

a attaching step for attaching the supporting substrate to the first conductive type nitride semiconductor layer side of the nitride semiconductor with interposing between them the first terminal; and subsequently,

a different-material-substrate-eliminating step for eliminating the different material substrate so as to expose the second conductive type nitride semiconductor layer.

18. The method according to claim 17, wherein the conductive layer is formed by a eutectic junction in the attaching step.

19. The method according to claim 17, wherein the attaching step is performed by thermocompression bonding.

20. The method according to claim 17, wherein the different-material-substrate-eliminating step is performed by laser irradiation, polishing, or chemical polishing.

21. The method according to claim 17, wherein the light-emitting layer has a quantum well structure, which includes at least a well layer of $Al_aIn_bGa_{1-a-b}N$ (0=a=1, 0=b=1, a+b=1) and a barrier layer of $Al_cIn_dGa_{1-c-d}N$ (0=c=1, 0=d=1, c+d=1).

22. The method according to claim 21, wherein,

the light-emitting layer has a quantum well structure, which includes at least a well layer of $Al_aIn_bGa_{1-a-b}N$ (0<a=1, 0<b=1, a+b<1) and a barrier layer of $Al_cIn_dGa_{1-c-d}N$ (0<c=1, 0<d=1, c+d<1), and

the first conductive type semiconductor layer is disposed in one side of the principal plane of the light-emitting layer,

the second conductive type semiconductor layer, which includes Al, is disposed in another side of the principal plane of the light-emitting layer.

23. The method according to claim 17, further comprising

an asperity-portion-forming step for forming an asperity portion on the exposed surface of the nitride semiconductor, which is the second type conductive nitride semiconductor layer, after the different-material-substrate-eliminating step.

24. The method according to any one of the claims 17-23, further comprising

a step for forming a second insulating protect layer on the exposed surface of the nitride semiconductor, which is the second type conductive nitride semiconductor layer, after the different-material-substrate-eliminating step.

25. The method according to claim 24, further comprising

a step for forming an asperity portion on the second insulating protect layer.

26. The method according to claim 24, wherein the refractive index of the second insulating protect layer is more than or equal to 1 and not more than 2.5.

27. The method according to claim 17, further comprising

a step for breaking the nitride semiconductor into chips by etching the exposed surface of the nitride semiconductor after the different-material-substrate-eliminating step.

28. A method for producing a nitride semiconductor element having at

least a conductive layer, a first terminal, a nitride semiconductor with a light-emitting layer, and a second terminal, from a supporting substrate successively, comprising:

a growing step for growing the nitride semiconductor having at least an undoped GaN layer, a second conductive type nitride semiconductor layer, the light-emitting layer, and a first conductive type nitride semiconductor layer on a different material substrate; subsequently,

a attaching step for attaching the supporting substrate to the first conductive type nitride semiconductor layer side of the nitride semiconductor with interposing the first terminal between them; and subsequently,

an exposing step for exposing the second conductive type nitride semiconductor layer by eliminating the different material substrate and the undoped GaN.

29. The method according to claim 28, wherein the nitride semiconductor layers except the light-emitting layer in the nitride semiconductor have a band gap larger than the light-emission band gap.